

Amendment of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-9 Canceled

10. (currently amended) A method for detecting an invalid polygon on a handheld computer device comprising:

(a) inputting from a user on a graphical interface a plurality of connected lines to define a polygon;

(b) selecting a pair of lines from the plurality of lines that do not share a common starting point;

(c) determining if the selected pair of lines crossover;

(d) determining the polygon is invalid and indicating to the invalidity to the user if the selected pair of lines crossover; and

(e) repeating steps (a)-(c) for remaining pairs of lines from the set of lines.

11-12 Canceled

13. (original) The method of claim 10, wherein the determining line crossover step comprises:

determining a starting and ending point for each line in the pair of lines;

determining an overlap interval;
determining if the overlap interval is a valid interval;
calculating a value for each line based on the overlap interval if the overlap interval is valid;
comparing the values for each line if the overlap interval is valid; and
detecting line crossover based on the comparison if the overlap interval is valid.

14. (original) The method of claim 10, wherein the set of lines is a set of all possible combination of pairs of lines in the polygon.

15-16 Canceled

17. (previously presented) The method of claim 10, wherein the validity of a polygon is tested after a new line is added to the polygon and before the user completes drawing the polygon.

18. (original) The method of claim 10, wherein the validity of a polygon is tested after it has been completely specified.

19. (original) The method of claim 10, wherein the validity of a polygon is tested only after a user specifies that it be tested.

20. (previously presented) The method of claim 13, wherein the overlap interval is defined as $[X1, X2]$, and wherein the calculating step comprises calculating an Y-value

for each line at the beginning of the overlap interval, X1, and an Y-value for each line at the end of the overlap interval, X2.

21. (previously added) The method of claim 20, wherein a point on each line is specified by an X-value and a Y-value, and wherein the comparing step comprises:

comparing the Y-value at X1 (Y1a) for a first line with the Y-value at X1 (Y1b) for a second line; and

comparing the Y-value at X2 (Y2a) for the first line with the Y-value at X2 (Y2b) for the second line.

22. (previously presented) The method of claim 21, wherein a line crossover has occurred if $((Y1a \leq Y1b) \text{ and } (Y2a \geq Y2b))$ or $((Y1a \geq Y1b) \text{ and } (Y2a \leq Y2b))$ evaluate true.